

Land Use 2025: State Land Use Policies and Plan

Part Six: Future Land Use Plan

Alternative Land Use Scenarios



Land Use 2025

Today August 5, 2004:

- Brief recap of 8 step methodology

- **Future Land Use Scenarios**



Methodology Recap

1. Land Suitability Analysis
2. Land Intensity Classification
3. Future Needs Determination
4. Scenario Definition
5. Assignment of land by LIC to each scenario
6. Assessment of transportation interactions
7. **Selection of final scenario**
8. Compare with composite local plans/adjust



Future Land Use Plan Map 2025

Land Suitability Analysis

GIS based analysis of
resource values &
constraints

Output: All land
assessed – range
of 0 to 8 co-
occurring factors

Inputs/ 8 Factors:

- Public Water Supply Watersheds
- Ag lands & soils
- Forested Lands
- Soils - ISDS Limits
- Aquifer Recharge/WHPA
- Water, Wetlands
- Flood Hazard Areas
- Critical Habitats

Land Suitability Analysis

Concentration of Key Factors

Lower #



0 - Red

1 - Pink

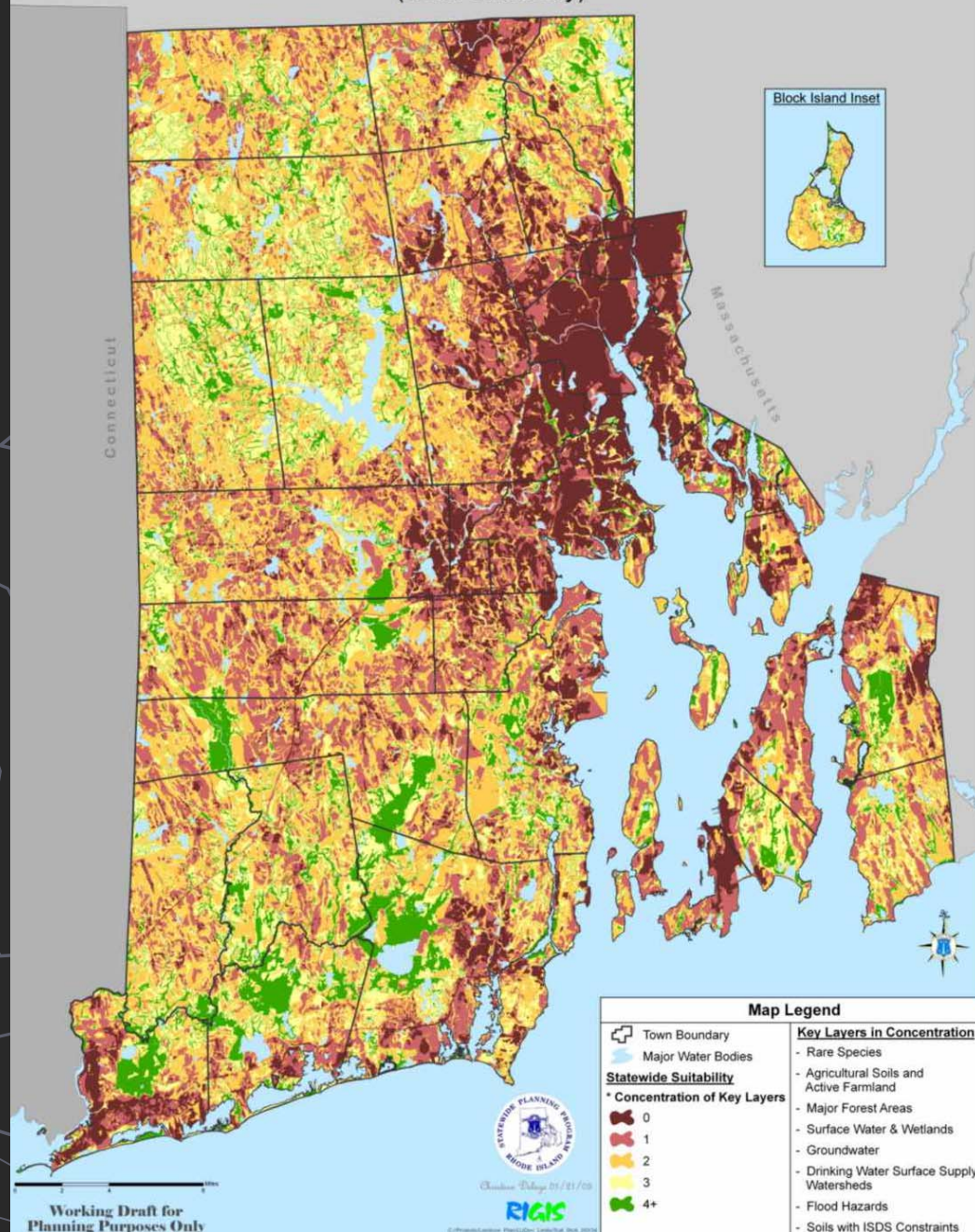
2 - Orange

3 - Yellow

4+ - Green

Higher #

Concentrations of Natural Resources and Limitations to Development (Land Suitability)



Land Intensity Classification

Create decision matrix to translate land suitability analysis into potential land intensity classes.....

Note: Revisions made subsequent to Technical Committee review on 1-7-05 are shown as bold underline (pink)

TABLE 1

Decision Rule Matrix for Initial Assignment of Land to Development Intensity Categories

# Constraints	Sen. Water Res.Area ¹	Public Infrastructure Avail.		Initial Assign to
		water	sewer	DEV/CON:
0	N	N	N	A
0	N	N	Y	A
0	N	Y	N	A
0	N	Y	Y	A
<u>0</u>	<u>Y</u>	<u>N</u>	<u>N</u>	<u>D</u>
<u>0</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>C</u>
<u>0</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>C</u> *
<u>0</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>A</u>
1	N	N	N	B
1	N	Y	N	<u>A-B</u>
1	N	N	Y	A
1	N	Y	Y	A
1	Y	N	N	D
1	Y	Y	N	C
1	Y	N	Y	C *
1	Y	Y	Y	<u>A B</u>
2	N	N	N	C
2	N	N	Y	A
2	N	Y	N	B
2	N	Y	Y	A
2	Y	N	N	E
2	Y	N	Y	C *
2	Y	Y	N	D
2	Y	Y	Y	<u>A B</u>
3	N	N	N	D
3	N	N	Y	<u>B A</u>
3	N	Y	N	<u>C B</u>
3	N	Y	Y	<u>B A</u>
3	Y	N	N	E
3	Y	N	Y	D
3	Y	Y	N	D
3	Y	Y	Y	C
4 +	any	any	any	E
<u>Any</u>	<u>exclude currently protected lands from assignment of development code</u>			<u>P</u>
<u>Any</u>	<u>exclude open water areas from assignment of development code</u>			<u>W</u>

* Assignment adjusted to reflect recommendations of Scituate Reservoir Management Plan and CRMC SAM Plans

KEY: DEV/CON Levels

Level:

Description -- Optimum potential for ...

- A Higher intensity development (4+ du/ac. w/ Commercial, Industrial, Mixed Use (CIM))
- B Moderate intensity development (1-4 du/ac. & CIM)
- C Low intensity development (0.25- 0.9 du/ac, limited** CIM) and conservation
- D Conservation & limited, resource-based development (<0.25 du/ac, limited** CIM)
- E Conservation / very limited development potential

** CIM type and intensity per recommendations of Scituate Watershed Mgmt. Plan

Land Intensity Classification

A. Development Intensity Potential

Objective:

Combine land suitability data with infrastructure to categorize land for development intensity potential

Inputs/Factors:

- Land Suitability Analysis data
- Public water supply service areas
- Public sewer service areas
- Sensitive water resource areas
 - SAM Plan coastal pond watersheds
 - GAA aquifers
 - Public water supply watersheds

Output: All land categorized as A → E potential land use intensity category

Intensity Potential Classes

- "A" High -- 4+ du/ac; C,I,M
- "B" Moderate -- 1-4 du/ac; C,I,M
- "C" Low -- 0.25 – 0.9 du/ac; limited C,I,M
- "D" Conservation/Limited, Resource based development -
- <0.25 du/ac; limited C,I,M
- "E" Conservation/very limited development
- "P" Currently protected land – not assessed
- "W" Open Water – not assessed

Land Intensity Classification

Intensity Scale

Higher



A - Red

B - Orange

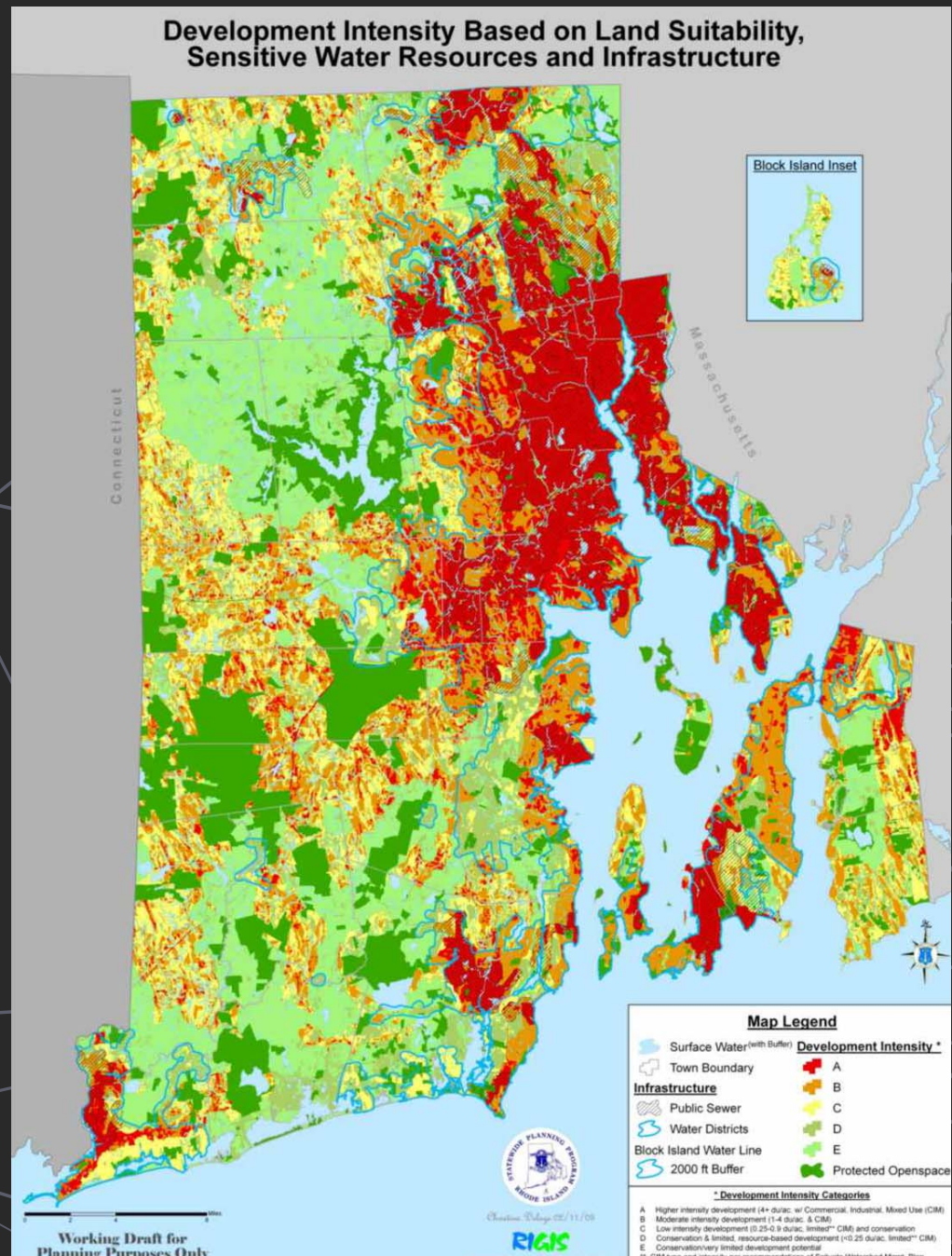
C - Yellow

D - Olive

E - Lt. Green

Lower

Protected - Dk. Green



Land Intensity Classification

B. Development Prioritization

Objective:

Further prioritize land categorized suitable for development based on proximity to infrastructure

Inputs/Factors:

- A, B, & C category areas
- Public water and sewer service areas
- Transportation infrastructure
- Proximity factors

Output: All A, B or C categories designated as Primary, Secondary or Tertiary Development priority

Land Intensity Classification Development Prioritization

Priority Scale

PRIMARY

A - Red

B - Orange

C - Yellow

SECONDARY

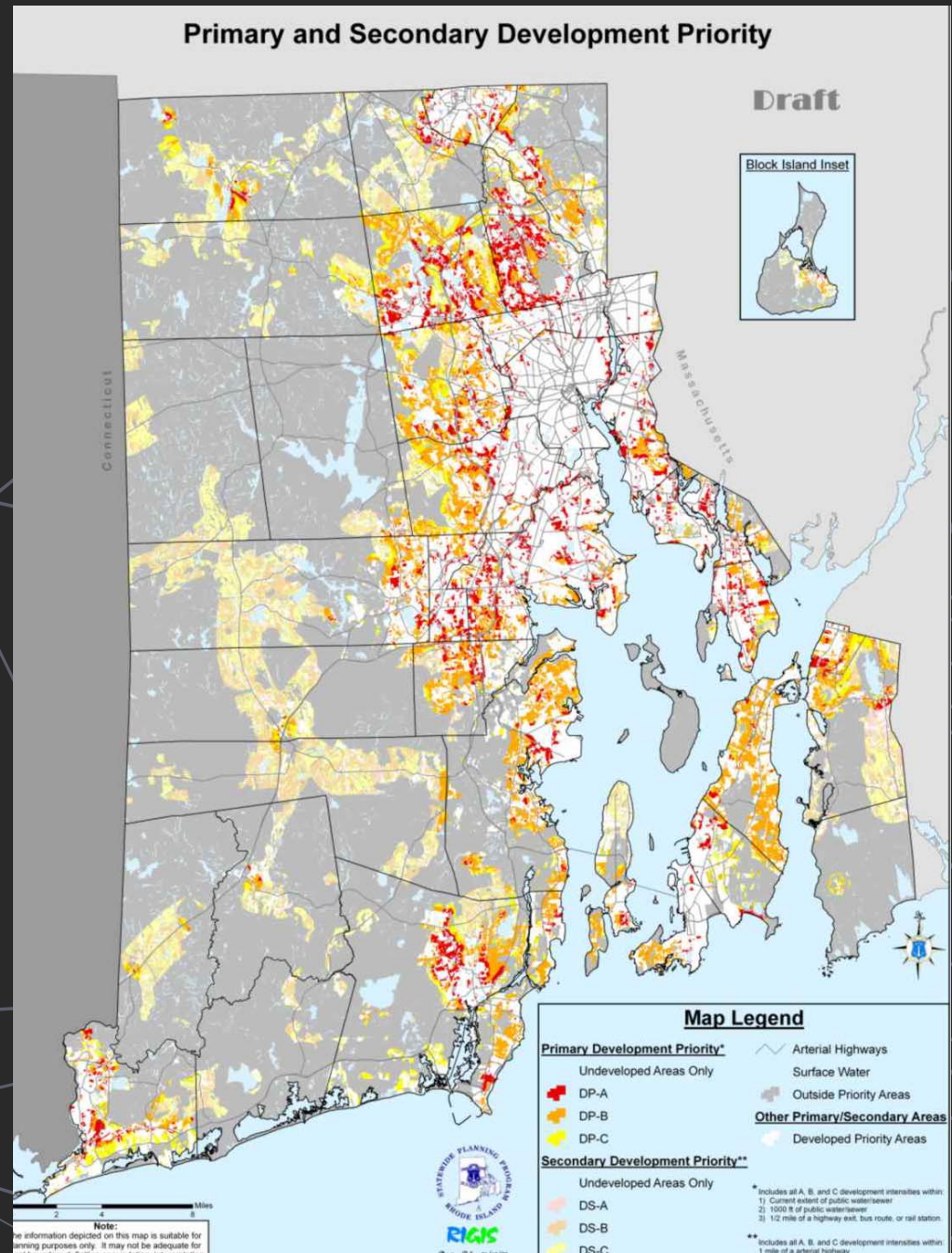
A - Pink

B - Lt. Orange

C - Lt. Yellow

Developed - White

All else -- Grey



Land Intensity Classification

C. Conservation Area Prioritization

Objective:

Further prioritize land categorized suitable for conservation

Inputs/Factors:

- C, D, & E Intensity areas
- DEM protection priorities
- Existing protected lands
- Greenspace and Greenways Plan
- Proximity factors

Output: All C, D or E categories designated as Primary, Secondary or Tertiary Conservation priority

Land Intensity Classification Conservation Prioritization

Priority Scale

PRIMARY

E - Bright Green

D - Olive Green

C - Dk. Yellow

SECONDARY

E - Lt. Green

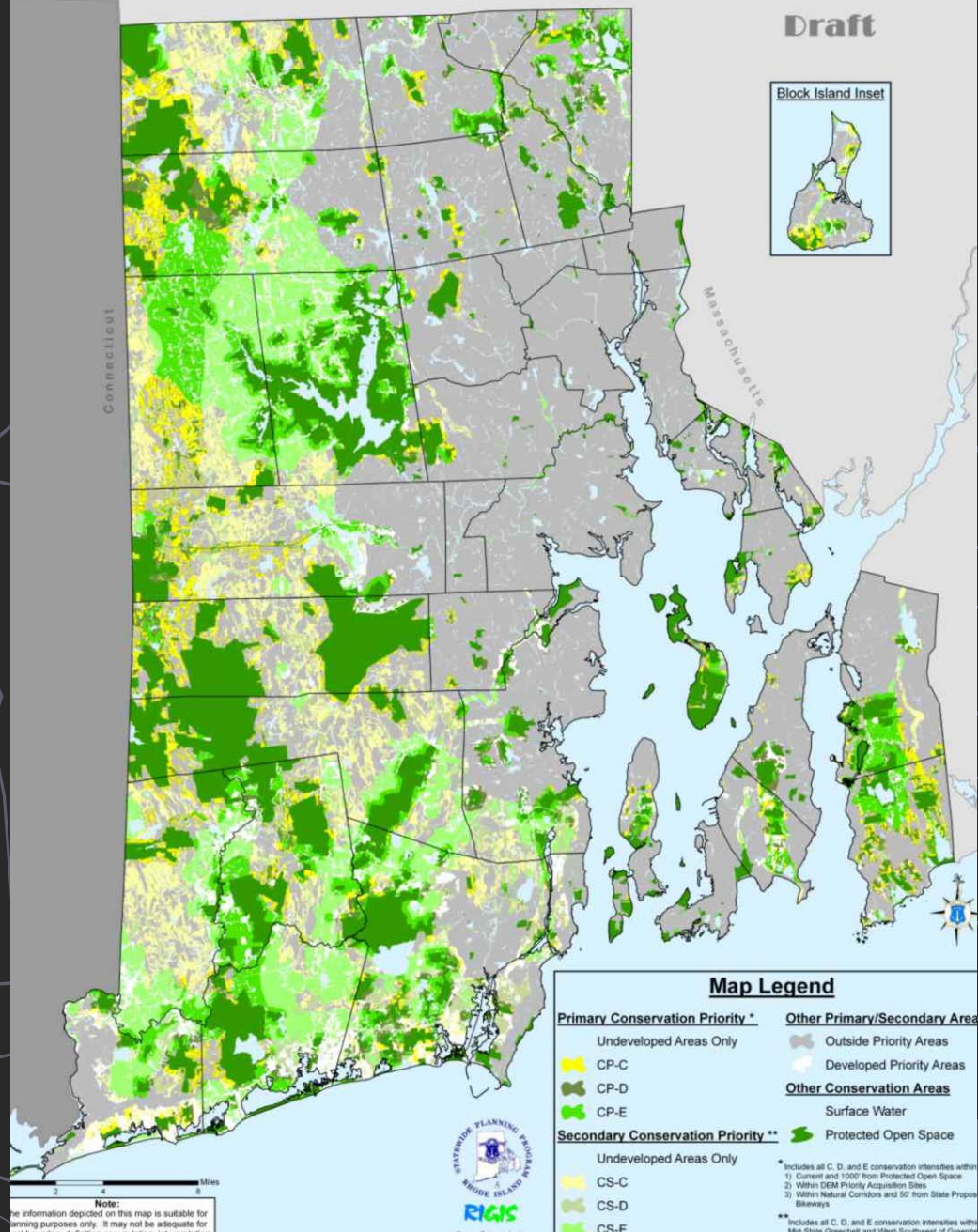
D - Lt. Olive

C - Lt. Yellow

**Existing Protected -
Darkest Green**

All Else -- Grey

Primary and Secondary Conservation Priority

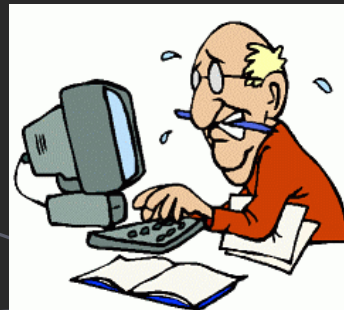


Future Land Use Needs

Needs derived in text of plan:

PART 121-3: LAND USE TRENDS AND FUTURE NEEDS

See web page:



<http://www.planning.state.ri.us/landuse/part3.pdf>

Future Land Use Needs

Based on trends:

- population/employment growth, current local plans
- Does not take into account reuse of existing developed

Approximate Needs

- ▶ Residential: 76,000 acres additional
- ▶ Comm/Ind/Mixed: 12,000 additional acres
- ▶ Institutional: 1,000 acres

Scenarios

Scenario planning provides a framework for developing a vision for the future

- **Scenario 1: Trends**
- **Scenario 2: Centers & Corridors**
- **Scenario 3: Infill**
- **Scenario 4: Composite**



Scenarios

Estimated Need in Acres of Undeveloped Land Developed Through 2025 by Scenario

		Scenario:											
		1: Trend			2: Centers/Corridors			3: Infill			4: Composite		
Target Efficiency Factor:		100% of est need ¹			80% of trend ²			70% of trend ²			65% of trend ²		
Land Use Category:	Dev. Cat.	Add'l Gross Dev.acres	Add'l Net Dev.acres	Add'l Dwell. units	Add'l Gross Dev.acres	Add'l Net Dev.acres	Add'l Dwell. units	Add'l Gross Dev.acres	Add'l Net Dev.acres	Add'l Dwell. units	Add'l Gross Dev.acres	Add'l Net Dev.acres	Add'l Dwell. units
RESIDENTIAL ³													
High (8+ du/ac)	A	201	161	1,285	625	500	4,000	1,875	1,500	12,000	1,000	800	6,400
Med-High (4-8 du/ac)	A	734	587	3,524	1,500	1,200	7,200	2,000	1,600	9,600	1,625	1,300	7,800
Medium (1-4du/ac)	B-C	4,084	3,267	6,534	4,125	3,300	6,600	7,500	6,000	12,000	8,000	6,400	12,800
Med-Low (0.5-1 du/ac)	C	20,320	16,256	11,379	16,256	13,005	9,103	4,375	3,500	2,450	9,375	7,500	5,250
Low (<0.5 du/ac)	C-D	70,110	56,088	14,022	50,000	40,000	10,000	3,750	3,000	750	22,500	18,000	4,500
Subtotal Resid.		95,448	76,359	36,744	72,506	58,005	36,903	19,500	15,600	36,800	42,500	34,000	36,750
COMM. IND. MIXED	A-C	12,100	12,100		9,680	9,680		8,470	8,470		7,865	7,865	36,750
INSTITUTIONAL	A-C	1,100	1,100		880	880		770	770		715	715	
TOTAL:		108,648	89,559	36,744	83,066	68,565	36,903	28,740	24,840	36,800	51,080	42,580	36,750
Targets (acreage & DU)		108,648	89,559	36,744	86,919	71,647	36,744	76,054	62,691	36,744	70,621	58,213	36,744
Difference		0	0	0	3,853	3,082	159	47,314	37,851	56	19,541	15,633	6
Land Relative to Trend ⁴		100			76			26			47		

Assign land to each scenario based on future growth "need" assumptions

Residential: housing land needed in each density category assigned to corresponding intensity category

Residential Density		Density Range
High	A	(8+ du/ac)
Med-High	A	(4-8 du/ac)
Medium	A-B	(1-4du/ac)
Med-Low	C	(0.5-1 du/ac)
Low	C-D	(<0.5 du/ac)

■ Other: C, I, M & Ins. -- assign predominately to A, & B

► Adjust as necessary to fulfill scenario land needs

Assess Transportation System Effects

- Load socio-economic data for each scenario into Transportation Model
- Identify traffic impacts:
 - Changes in total DVMT
 - Changes in distribution of VMT and congested areas
 - Other effects
- Limitation: no transit mode in model at present

FUTURE REFINEMENTS

Select Optimum Scenario

- Assess Scenarios with Technical Committee
- Select optimum


Today's Goal



Compare selected scenario with composite of municipal plans

- ▶ Adjust selected scenario where deemed prudent
- ▶ Identify areas to be reviewed during next Comprehensive Plan update cycle
- ▶ Results : Future Land Use Plan for 2025 update

Methodology Recap – Where are we ?

1. Land Suitability Analysis ✓
 2. Land Intensity Classification (LIC) ✓
 3. Future Needs Determination ✓
 4. Scenario Definition ✓
 5. Assignment of land by LIC to each scenario ✓
 6. Assessment of transportation interactions X
 7. **Selection of final scenario**
 8. Compare with composite local plans/adjust
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Future Land Use Plan Map 2025

Scenarios

Trend:

- **100 %** of new development in areas adjoining existing developed areas;
- no great change & scattered low density pattern

Centers/Corridors:

- **80%** of new development within centers and corridor zones

Infill:

- **85%** of new development within extended water / sewer districts

Composite:

- **90%** of new development within extended water / sewer districts, centers and best corridor areas from all scenarios

Scenario Targets / Results

Scenario	Land Efficiency Initial Target	Land Efficiency GIS Results	Comments
Trend	No change (100%)	No change (100%)	Significant impact on sensitive resource land & under-utilization of higher capability land
Centers/ Corridors	20% less land*	24 % less land*	Significant impact on sensitive resource land
Infill	30% less land*	74% less land*	Unrealistically high densities required; geographically unbalanced
Composite	35% less land *	53% less land*	Compact, geographically balanced growth

* Compared to estimated new land developed under Trend



Let's look at the Scenario maps

SCENARIO 1: TRENDS

Land Use Category:	Projected Need			
	Target Efficiency Factor: 100 % of est. need			
	Dev. Cat.	Add'l Gross Dev. Acres	Add'l Net Dev. Acres	Add'l Dewll. Units
RESIDENTIAL				
High (8+ du/ac)	A	201	161	1,285
Med-High (4-8 du/ac)	A	734	587	3,524
Medium (1-4du/ac)	B-C	4,084	3,267	6,534
Med-Low (0.5-1 du/ac)	C	20,320	16,256	11,379
Low (<0.5 du/ac)	C-D	70,110	56,088	14,022
Subtotal Resid.		95,449	76,359	36,744
COMM. IND. MIXED	A-C	12,100	12,100	
INSTITUTIONAL	A-C	1,100	1,100	

SCENARIO RESULTS	
Dev. Cat.	Total Acres
A	16,586.00
B	35,414.00
C	21,408
D	15,462.00
E	33,354.00

TOTAL:	108,649	89,559	36,744	122,224.00
Targets (acreage & DU)	108,649	89,559	36,744	
Difference	0	0	0	
Land Relative to Trend	100			

SCENARIO 2: CENTERS & CORRIDORS

Land Use Category:	PROJECTED NEED			
	Target Efficiency Factor: 80 % of Trend			
	Dev. Cat.	Add'l Gross Dev. Acres	Add'l Net Dev. Acres	Add'l Dewll. Units
RESIDENTIAL				
High (8+ du/ac)	A	625	500	4,000
Med-High (4-8 du/ac)	A	1,500	1,200	7,200
Medium (1-4du/ac)	B-C	4,125	3,300	6,600
Med-Low (0.5-1 du/ac)	C	16,256	13,005	9,103
Low (<0.5 du/ac)	C-D	50,000	40,000	10,000
Subtotal Resid.		72,506	58,005	36,903
COMM. IND. MIXED	A-C	9,680	9,680	
INSTITUTIONAL	A-C	880	880	

SCENARIO RESULTS	
Dev. Cat.	Total Acres
A	14,485
B	36,805
C	22,895
D	16,130
E	39,029

TOTAL:	83,066	68,565	36,903
Targets (acreage & DU)	86,919	71,647	36,744
Difference	3,853	3,082	159
Land Relative to Trend	76		

129,344

SCENARIO 3: INFILL

Land Use Category:	Projected Need			
	Target Efficiency Factor: 70 % of Trend			
	Dev. Cat.	Add'l Gross Dev. Acres	Add'l Net Dev. Acres	Add'l Dewll. Units
RESIDENTIAL				
High (8+ du/ac)	A	1,875	1,500	12,000
Med-High (4-8 du/ac)	A	2,000	1,600	9,600
Medium (1-4du/ac)	B-C	7,500	6,000	12,000
Med-Low (0.5-1 du/ac)	C	4,375	3,500	2,450
Low (<0.5 du/ac)	C-D	3,750	3,000	750
Subtotal Resid.		19,500	15,600	36,800
COMM. IND. MIXED	A-C	8,470	8,470	
INSTITUTIONAL	A-C	770	770	

SCENARIO RESULTS	
Dev. Cat.	Total Acres
A	20,135.00
B	38,678.00
C	10,624
D	18,462.00
E	19,086.00

TOTAL:	28,740	24,840	36,800	106,985.00
Targets (acreage & DU)	76,054	62,691	36,744	
Difference	47,314	37,851	56	
Land Relative to Trend	26			

SCENARIO 4: COMPOSITE

		Projected Need		
		Target Efficiency Factor: 65 % of Trend		
Land Use Category:	Dev. Cat.	Add'l Gross Dev. Acres	Add'l Net Dev. Acres	Add'l Dewll. Units
RESIDENTIAL				
High (8+ du/ac)	A	1,000	800	6,400
Med-High (4-8 du/ac)	A	1,625	1,300	7,800
Medium (1-4du/ac)	B-C	8,000	6,400	12,800
Med-Low (0.5-1 du/ac)	C	9,375	7,500	5,250
Low (<0.5 du/ac)	C-D	22,500	18,000	4,500
Subtotal Resid.		42,500	34,000	36,750
COMM. IND. MIXED	A-C	7,865	7,865	
INSTITUTIONAL	A-C	715	715	

SCENARIO RESULTS	
Dev. Cat.	Total Acres
A	19,958
B	40,472
C	14,301
D	19,258
E	21,450

TOTAL:	51,080	42,580	36,750	115,439
Targets (acreage & DU)	70,622	58,213	36,744	
Difference	19,542	15,633	6	
Land Relative to Trend	47			

SCENARIO 1 Trends		Results
Dev.		
Cat.	Total Acres	
A	16,586	
B	35,414	
C	21,408	
D	15,462	
E	33,354	
	122,224	

SCENARIO 2 Centers & Corridors		Results
Dev.		
Cat.	Total Acres	
A	14,485	
B	36,805	
C	22,895	
D	16,130	
E	39,029	
	129,344	

SCENARIO 3 Infill		Results
Dev.		
Cat.	Total Acres	
A	20,135	
B	38,678	
C	10,624	
D	18,462	
E	19,086	
	106,985	

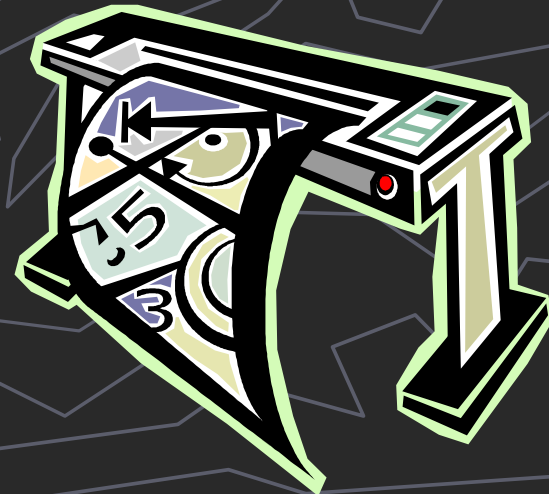
SCENARIO 4 Composite		Results
Dev.		
Cat.	Total Acres	
A	19,958	
B	40,472	
C	14,301	
D	19,258	
E	21,450	
	115,439	

Recommended Scenario

Staff recommends:

“Composite”

scenario be used to draft
future land use map.



Select Optimum Scenario

Your thoughts....questions... opinions...?



Coming in next few month(s)...

- ▶ Final review by Technical Committee & State Planning Council
- ▶ Public hearing(s)
- ▶ Final plan approval

*In the meantime.....
questions & comments
are welcome:*

Contact us:

<http://www.planning.state.ri.us/directory/staffdir.htm>